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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,365	09/26/2003	Chris Savarese	06196.P002	3038

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James C. Scheller, Jr.
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER	
D'AGOSTINO, PAUL ANTHONY	

ART UNIT	PAPER NUMBER
3714	

MAIL DATE	DELIVERY MODE
12/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/672,365	SAVARESE ET AL.	
	Examiner	Art Unit	
	Paul A. D'Agostino	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *128,130-141 and 147-149* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *128,130-141 and 147-149* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This responds to Applicant's Arguments/Remarks filed 12/01/2008. Claims 128, 136, 141, and 148-149 have been amended. Claims 1-127, 129, 142-146, and 150-152 have been cancelled. Claims 128, 130-141, and 147-149 are now pending in this application.

Response to Amendments

1. Applicant made minor alterations but generally accepted Examiner's proposed claim language included within the Final Office Action filed 11/04/2008. Upon final review however, reconsideration is being given to the art of record in light of the amended claims and, therefore, the finality of that action and the indicated allowability of the claims therein is withdrawn.

2. This acknowledges and approves two (2) Terminal Disclaimers filed 12/1/2008. Thus, the double patenting rejection is withdrawn.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 128, 130-133, 135-139, and 147-149 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,620,057 to Pirritano et al. (Pirritano) of record in view of U.S. Patent No. 6,113,504 to Kuesters (Kuesters) of record.

In Reference to Claim 128

Pirritano discloses a system and method for locating golf balls (Fig. 1) wherein a spherical object having an outer spherical surface (Fig. 2 "core" 31 and "cover" 32 col. 5 Lines 11-13) and having a first void with a solid and closed base recessed below the outer spherical surface and a second void with a solid and closed base recessed below the outer spherical surface of said spherical object (Fig. 2, Col. 11 Lines 5-11, and "disposed between the cover and the core is a passive inductor array, generally designated 36" Col. 5 Lines 13-14 wherein "each loop inductor is etched onto insulative substratum using conventional photo-resistive etching techniques..." Col. 15 Lines 27-29 and "the insulative substratum is cut away in the center of the loop." Col. 15 Lines 41-44; this etched away material forms a plurality of voids with solid and closed bases where the loops are located);

the first void being located at a first pole of a first axis of the spherical object and the second void being located at a second pole of the first axis ("Therefore, in order to generate a substantially omnidirectional response to an incoming RF signal three passive transponders are arranged in an array along three mutually perpendicular axes such that each transponder is equidistant from the point of intersection of the three axis and each transponder is perpendicular to each of the other transponders" Col. 10 Lines 39-44. However, Pirritano is silent as to locating the second void at a second pole of the first axis. It has been held that "mere duplication of parts has no patentable significance unless a new and unexpected result is produced" *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Alternatively, Pirritano discloses multiple axis and

multiple transponders, the courts have held that "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without benefit of appellant's specification, to make the necessary changes in the reference device" *ex parte Chicago Rawhide Mtg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & inter. 1984); Pirritano discloses transponder configurations to create a quasi-isotropic response - "quasi-isotropic response because although the array will respond when illuminated with a 2.45 ghz signal from any angle, signal intensity is detectably stronger at points coplanar with one of the flat-loop inductors" Col. 10 Lines 45-50; thus, rearranging the parts to cover the poles of the axis achieves the same desired quasi-isotropic response result). Lastly, Kuesters discloses voids for electronic components at both ends of a plurality of poles (Fig. 2A) in order to provide "golfers with the position of their golf balls relative to various obstacles and targets of a golf course" Col. 2 Lines 6-8. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the location of voids for electronic components at the axis' poles as taught by Kuesters into the teachings of Pirritano in order to provide golfers with the position of their golf balls relative to various obstacles and targets of a golf course);

wherein the first void and the second void are configured to receive at least one electronic component {semi-conductor} (Fig. 2 depicts void receiving "capacitor" as in "flat inductor loop and in conjunction with the faces of the slot functions as a capacitor..." Col. 6 Lines 25-32); and

at least one antenna attached to the outer spherical surface (Fig. 2A and "the array includes three passive transponders in the form of flat-loop inductors" Col. 5 Lines 14-16 and "The electrical aperature includes the entire center of the Loop as well as an area around the Loop, since it is an antenna" Col. 5 Lines 48-50),

the at least one antenna configured to transmit an RF signal ("When the current flows in a positive direction the field builds up around the Loop, some energy is dissipated as RFI that the hand held receiver can detect" Col. 6 Lines 60-63), and

configured to be coupled to the at least one electronic component {semiconductor which is coupled to the antenna} ("capacitor" e.g., "The ends of the Loop antenna face each other and form a narrow diagonal slot 37 that is filled with a dielectric and in conjunction with the faces of the slot functions as a capacitor." Col. 6 Lines 25-32).

In Reference to Claim 130 and 147

Pirratano discloses wherein the at least one antenna includes a first antenna and a second antenna (Fig. 2) and wherein a first semiconductor ("capacitor" Col. 6 Lines 25-32), which is coupled to the first antenna (Fig. 2), is disposed at least partially in the first void (Fig. 2), and a second semiconductor, which is coupled to the second antenna, is disposed at least partially in the second void (Fig. 2); and wherein the first antenna is substantially orthogonal to the second antenna (Fig. 2).

In Reference to Claim 131

Pirritano discloses at least one of RFID circuitry ("passive transponders" Col. 5 Line 15) and an integrated circuit (Fig. 2 depicts "flat inductor loop and in conjunction with the faces of the slot functions as a capacitor..." Col. 6 Lines 25-32 forming an integrated circuit).

In Reference to Claim 132

Pirritano discloses wherein said golf ball is detectable with a handheld transmitting/receiving device over a range of at least 20 feet separating said handheld transmitting/receiving device and said golf ball ("100 feet" Col. 4 Lines 19-22) and with sufficient durability to survive at least 20 standard cannon test hits ("impervious to impact loading" Col. 4 Lines 12) but is silent on wherein the golf ball weighs less than 45.927 grams.

However, it would only require routine skill in the art to provide a golf ball conforming to this weight given that all golf balls must conform to whatever "legal" weight is required by the current rules of golf. For example, Kuesters incorporates the content of U.S. Patent No. 5,564,698 to Honey et al (Honey) wherein an electromagnetic device is modified to fit in a golf ball with a weight not more than 45.93 gm as required by the rules of golf (Col. 4 Lines 1-9) in order to golf in accordance with the rules of the game (Col. 4 Lines 8-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the ball weight as taught by Honey incorporated by

Kuesters into the teachings of Pirritano in order to golf in accordance with the rules of the game.

In Reference to Claim 133

Pirritano discloses wherein the first antenna (Fig. 2) has at least a portion disposed between an outer spherical surface and an inner curved surface of said shell (Fig. 2), and wherein the first antenna is designed to receive a radiofrequency (RF) signal of a first frequency and to re-radiate a return RF signal of a second frequency ("It should also be noted that the above described array can be tuned to a frequency which is not exactly the same frequency as the transmitter which illuminates and energizes the array." Col. 10 Lines 61-67).

In Reference to Claim 135

Pirritano as modified by Kuesters discloses wherein an adhesive material is between said first void and said first semiconductor and an adhesive material is between said second void and said second semiconductor ("laminated to a KAPTON substrate" Col. 5 Lines 29-30). An adhesive is not explicitly disclosed however it is known that lamination may involve using an adhesive or epoxy between layers of material. Alternatively, Kuesters teaches of using a resin for location 20 of Fig. 2A "Furthermore, electronic chamber 20 can be filled with a resin embedding any electronic components part of electromagnetic transmitter 22, thereby keeping them from moving

or vibrating." in order to safely provide a system capable of giving individual golfers the location of their golf ball (Col. 2 Lines 13-15).

In Reference to Claim 136

See rejection of Claims 128-135. Additionally, Pirritano as modified by Kuesters discloses an adhesive material between a the base of said first void and said first semiconductor, and wherein the first semiconductor has a first surface disposed adjacent to the base of the first void and coupled to the base by the adhesive material, and wherein the first semiconductor has a second surface which is parallel with the first surface, and wherein the second surface is adjacent to the outer surface of the spherical object at an upper end of the void which is adjacent to the outer surface (As previously presented Pirritano and Kuesters disclose laminating in the case of Piritano and using resins in the case of Kuesters. These would be applied to the loop of Pirritano which has an upper and parallel lower surfaces adjacent to upper and lower surfaces of the void and outer surface, respectively).

In Reference to Claim 137

See rejection of Claim 131.

In Reference to Claim 138

Pirritano discloses wherein the first semiconductor is coupled to the first antenna to form a tag (Col. 17 Lines 1-17).

In Reference to Claim 139

See rejection of Claim 132.

In Reference to Claim 148-149

See rejection of Claims 128, 130-131, 133, and 135-136.

8. Claims 134 and 140-141 are rejected under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,620,057 to Pirritano et al. (Pirritano) of record in view of U.S. Patent No. 6,113,504 to Kuesters (Kuesters) of record and further in view of U.S. Patent Pub. No. 2003/0017884 to Masters et al. (Masters) of record.

In Reference to Claims 134 and 140

Pirritano as modified by Kuesters discloses a system substantially equivalent to Applicant's claimed invention. However, Pirritaano as modified by Kuesters is silent on an antenna made of an elastic conductive material.

Masters teaches of a conductive elastic material used in golf equipment and can serve a material for antennas ("The full stress recovery of a superelastic material can occur with up to approximately 8% elongation in Nitinol (NiTi). Because of this large elastic range, superelastic materials are used in applications such as cardiovascular stents, mobile telephone antennas, and eyeglass frames. Superelastic materials have not previously been used in sporting equipment such as golf clubs or hockey sticks." [0008] in order to provide superelastic alloys [0010] for use in golf wherein the elements

of the club can recover to their original pre-stressed stage after a dynamically applied stress is released (i.e. after the club head strikes the ball" [0022].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the superelastic alloys for making an antenna as taught by Masters into the teachings of Pirritano as modified by Kuesters in order to provide golf balls that can recover to their original pre-stressed stage after a dynamically applied stress is released.

In Reference to Claim 141

Pirritano as modified by Kuesters and Masters discloses a system substantially equivalent to Applicant's claimed invention (See rejection of Claim 128-135). Additionally, Pirritano discloses a second tag (Fig. 2 "array of transponders" wherein each loop "functions as a tuned LC circuit that is charged by the RF transmitter/receiver and emits a radio frequency signal" Col. 3 Lines 60-64).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. D'Agostino whose telephone number is (571)270-1992. The examiner can normally be reached on Monday - Friday, 7:30 a.m. - 5:00 p.m..

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John M Hotaling II/
Supervisory Patent Examiner, Art Unit 3714

/Paul A. D'Agostino/
Examiner, Art Unit 3714